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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/004,897 01/09/98 BURRIS

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IM62/0224

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EXAMINER

LAWRENCE JR, F

ART UNIT

PAPER NUMBER

1724

DATE MAILED:

9
02/24/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/004,897

Applicant(s)

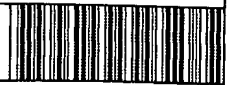
William A. Burris

Examiner

Frank Lawrence

Group Art Unit

1724



☒ Responsive to communication(s) filed on Dec 27, 1999

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-58 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☒ Claim(s) 21-38 is/are allowed.

☒ Claim(s) 1, 5-9, 11-18, 20, 39, 43-45, 47-55, 57, and 58 is/are rejected.

☒ Claim(s) 2-4, 10, 19, 40-42, 46, and 56 is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 5, 8, 9, 11-13, 17, 18, 39, 43-45, 47-50, 54 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burris ('993; entire document) in view of Barnes ('016 figure 1; col. 2, line 32 to col. 3, line 39).

Burris ('993) discloses a batch liquid purifier comprising a pumping system which can be a venturi injector, pump with inline static mixer downstream, or an upflow column for mixing ozone into water. There is an air pump for supplying gas for introduction into the liquid and could be configured to empty the liquid passageway. Valves, the air pump and pumping system (liquid pump) are controlled for their protection and to control purifying and liquid flows in response to sensed conditions and treated flow discharge. Also disclosed is a gas/liquid separator downstream of the pumping system and that a drying agent (desiccant) is used at the inlet of the controlled ozone generator to provide dried air. The instant claims differ from the disclosure of Burris in that mixers are located upstream and downstream of the upflow chamber.

Barnes ('016) discloses a batch liquid purifier comprising an upflow chamber (11) with inlet (33) and outlet (16), an ozone generator (32), a venturi/constriction injector (32), a

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pump, and a filter. The length of the passageway (L) after the ozone injector is disclosed to be long enough to provide sufficient mixing of ozone into the liquid and is located both before and after the upflow chamber due to recycling of the liquid. The mixers of claims 8 and 9 are met by the venturi and pipe length (L) of Barnes. How the generator operates is a functional limitation which is not patentably distinct in the apparatus claims. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the static mixer of Burris to include an additional mixer and place them upstream and downstream of an upflow chamber in order to provide more efficient ozone/liquid contact for better water purification. Those claims drawn towards when the ozone generator operates and when the outlet is closed are functional limitations which are not patentably distinct in the apparatus claims.

3. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burris ('993) in view of Barnes ('016) as applied to claim 1 above, and further in view of Uban et al. ('488; col. 5, lines 8-55).

Burris ('993) in view of Barnes ('016) discloses all of the limitations of the claims except that the filter in the system has an indicator to show a need for changing it. Uban et al. ('488) discloses a ozone water purifying system comprising an upflow chamber for contact and a filter downstream having an indicator that detects when the filter becomes clogged and starts a filter cleaning cycle. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the apparatus of the instant specification to include an indicator to detect

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when a filter needs to be changed in order to provide an automatic means for monitoring the filter so that it does not have to be manually inspected by a user.

4. Claims 14-16, 20, 51-53 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burris ('993) in view of Barnes ('016) as applied to claims 1 and 39 in paragraph 4 above, and further in view of Norris ('261; figures 1 and 3).

Burris ('993) in view of Barnes ('016) disclose all of the limitations of the claims as discussed in paragraph 2 above except that the dispenser includes a movable spout which can be extended beyond the purifier housing which activates the system, and that the container is detachable. Norris ('261) discloses a liquid dispenser having a detachable container and a movable spout extending from the unit and activating when extended further. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the apparatus of the instant specification to include a removable container in order to provide one that can be cleaned in another location and to use a movable spout which extends from the purifier and activates when extended in order to provide a means for easily dispensing liquid contents to a manual user without interference from the unit housing. The functional limitations of how the spout operation affects the purifier operation are not patentably distinct in the apparatus claims.

Allowable Subject Matter

5. Claims 2-4, 10, 19, 40-42, 46 and 56 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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6. Claims 21-38 are allowed.

7. The following is an examiner's statement of reasons for allowance: The method claims have been amended and define over the cited prior art. Although the primary reference, Burris ('993) discloses an upflow chamber, it can not be determined that bubbles rise more quickly than the water inside of it. A method for purifying a batch of liquid with ozone comprising mixing the ozone produced from a generator to form a liquid/ozone mixture, directing the liquid to an upflow chamber, causing an initial flow of liquid to rise in the upflow chamber at a slower rate than the rate of rising bubbles, and blocking entry of untreated liquid into the passageway except when the purifier is purifying the liquid flow, is not taught, disclosed or suggested in the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

8. Applicant's arguments filed December 27, 1999 have been fully considered but they are not persuasive. Applicant's arguments with regard to the operation of the upflow chambers of the instant claims and the prior art largely deal with functional limitations such as the chamber being empty prior to operation or rates of flow through the chamber. In the instant apparatus

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claims, very little structure is recited. For instance in claim 1, besides what is admitted as known in the preamble, the only structure claimed is a “pumping system” and an “upflow chamber.”

The same is true for many of the other apparatus claims. These arguments are persuasive concerning the claimed method and therefor the method claims are allowable for reasons stated above. Applicant argues that the apparatus of Barnes is not a batch process, however, only a fixed volume of liquid (as in a hot tub or swimming pool) is treated while no liquid is added or withdrawn. Even if the apparatus of Barnes is considered a continuous flow device, it is well known in the art to use ozone purification processes in either a batch or continuous flow device, as disclosed by references cited as of interest in this action.

Applicant argues that the instant device includes an upflow chamber which is initially empty before a purification process, however the claims do not recite this limitation and the instant specification recites that the upflow chamber may be full of liquid from a previous batch treatment. Applicant also argues that Barnes does not disclose a downstream mixer, however by virtue of the recirculation loop (14), the venturi mixer (31) will be located both upstream and downstream of the chamber in which ozone bubbles rise.

Applicant argues that Uban et al. ('488) does not disclose a filter indicator which operates as a function of a predetermined number of purification cycles, however this limitation is not claimed. As pointed out, the indicator of Uban et al. operates as a function of liquid level which rises as the filter becomes clogged. The clogging of the filter is a function of the extent of purifier operation, based on the level of contamination and flow rates.

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Applicant argues that the apparatus of Norris ('261) does not have a detachable container as in the instant claims, however the claim language is too vague to exclude a container such as that in the Norris patent, which can be removed. Also, it is well known in the art to include removable containers in liquid purifier/dispensers such as traditional bottled water dispensers that simply use a five gallon water bottle resting on top of a purifier. Applicant also argues that the dispenser of Norris does not function as the dispenser of the instant claims, however the dispenser of Norris has a handle which is movable acts as a switch for blocking dispensing flow, and a spout which is extended entirely beyond the purifier housing. Also, these functional limitations do not recite the structure of the dispenser to make it patentably distinguishable.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The references to Meidl et al. ('288; abstract; claim 10), Edwards ('188; abstract; col. 3, lines 44-49) and McGinness et al. ('351; abstract; col. 7, lines 62-67) discloses systems for purifying liquid with ozone which can use either batch or continuous flow configurations.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

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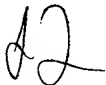
MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank M. Lawrence whose telephone number is (703) 305-0585. The examiner can normally be reached on Monday through Thursday from 8:00 AM to 4:30 PM, and on alternate Fridays from 8:00 AM to 3:30 PM.

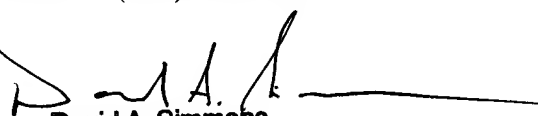
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. David A. Simmons, can be reached on (703) 308-1972. The fax number for official after final faxes for this Group is (703) 305-3599, for all other official faxes the number is (703) 305-7718, and for unofficial faxes the number is (703) 305-3602.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0651.

FL



February 22, 2000



David A. Simmons
Supervisory Patent Examiner
Technology Center 1700